

## INJURY AS AN ISSUE IN VIOLENCE\*

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SOME of you might have seen this weekend a CNN television interview with a five-year-old boy who had attempted to drive his younger sister to New York. The interview had them recreate how they got the keys out of their mother's purse on top of the refrigerator. This five-year-old boy backed the car out of the driveway and proceeded to drive down the road.

The policeman that stopped him said he followed him for awhile. He was going 20 miles an hour, weaving in and out of traffic. The policeman thought he had an adolescent so he turned on the siren and he remarked how the car pulled over without hitting the curb. He did a good job of driving. The policeman was astounded to get to the window and see a five-year-old boy. At the end of the interview the interviewer asked the boy, "After all of this, what did you learn?" He replied, "I learned how to drive."

I am also reminded about my aversion to taxicabs. It is not a theoretical aversion. I have been in three taxi accidents, and will frequently bribe drivers to drive slower. A month or so ago I got into a taxi in Philadelphia. As part of my introduction to ask this man to drive slower, I said to him, "I am a high risk passenger."

He said, "How is that?"

I said, "I have been in three taxi accidents."

He said, "That's nothing. I have been in a lot more than that."

It is very clear that throughout history the two items that have caused the most premature mortality have been infectious diseases and violence. Except for the introduction of the smallpox vaccine in the 1790s, the control of the infectious diseases is really a product of the past century. Even now, with all the controls, we understand that the infectious disease problem will be with us forever. We shall continue to find new infectious disease problems, such as Legionnaire's disease, toxic shock, AIDS, and so forth. We shall continue

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to have problems with developing resistance to antibiotics. We shall continue to have problems with nosocomial infections as we put more people with immunologic defects into hospitals.

Yet the other side is that remarkable control has been achieved, essentially in the past century. We no longer fear August because of polio. A physician can go through pediatric training and never see a case of measles, and rheumatic fever is becoming a rarity. We are in the first century of such control and yet we take it totally for granted.

I think back to Semmelweiss and what it must have been like to have in his mind and his experience an answer to childbed fever and yet to meet such resistance within the medical profession and within the society at large.

I think back to Edward Jenner and how he envisioned the end of smallpox. Yet the reaction that he received was so negative that he could not even become a Fellow of the Royal Society. But the truth prevailed and within a few generations these visionaries changed infectious disease control for all time.

The questions are: Are we about to have the same problem with injuries? Will the Michael Finklesteins and Joan Claybrooks, Susan Bakers, William Haddons of the 1960s, 70s and 80s change injury patterns for all time? Are we going to realize the investments of countless people? Why has injury control been so resistant to the efforts of public health people, law enforcement groups, engineers, government in general, and churches?

The problem is one this group knows well. I do not need to spend time convincing you. But the fact is, the impact of injury detracts mightily from the quality of life in the world. It subtracts more early years than heart disease and cancer put together. And it subtracts at every age. It subtracts from young people, it subtracts from old people. Today 200,000 Americans will be injured, and 410 of those will die. Of these 130 will die on highways, 30 will die at work, and 120 because of homicide and suicide. 75 will die because of falls, burns, and drownings.

We know all of that, yet we have to keep reminding ourselves that this does detract from the quality of life. It scars the psyches of those who continue to breathe. I have seen this again at close range in recent weeks within my own extended family, with three young people injured, and one person dead, things will never again be the same for those families. And it did not have to be.

What kind of response has taken place? Whether we are talking about the violence of war, frontiers, highways, or homes—and these forms of violence

have to be seen by us as part of one continuum—regardless of the senselessness, the gore, and the suffering, the response through the centuries has been acceptance. Not the acceptance of apathy but of fatalism—the fatalism that once confronted infectious diseases, where people would have done something if they could have but there was nothing they could do.

We have to remind ourselves, we have to remind each other, we have to remind industry, and we have to remind government that this is a cause-and-effect world. We do not have to be fatalists. We can determine the quality of our environment and our future.

As we become discouraged about this we must also remind ourselves that great progress has been made. As a society, we have taken some collective first steps in the area of antiviolence power. We are like a young person who has suddenly discovered for himself that this is a cause-and-effect world and, with a few small successes, develops confidence to do even more. So, as a society, we are beginning to realize that we are not powerless against injury and violence. And our successes, even if they are small, turn out to be refreshing to workers in the field and act as an inspiration to us to take more steps.

Other papers have discussed the early days of injury control. The fact is that the engineering changes in automobiles and highways have improved our risks considerably. If we still lived with the risks of 1940 we would have more than 150,000 deaths on the highways this year. We provided some world leadership in having one of the lowest death rates per hundred million miles of anyplace in the world. And we recall, again with pleasure, the leadership of Tennessee in passing the first child-restraint law. That success then swept the nation. We shall never go back to a time when it will be acceptable to subject children to the risks that we gave not a second of thought to 10 years ago. The social norm has changed for all time in that particular area.

That is our job and challenge, to make the toll of violence socially unacceptable. We have plenty of public health models to look at. It is difficult for us to recall 10 years ago in this country that the immunization rate for young children was only about 70%. For polio it was below 65%. Yet, in 10 years' time that has gone up to 90% and then 95%, and at the present time 98% of children are fully immunized when they start school.

The social norm has changed and we shall never go back to a point where it is socially acceptable in this country to leave children unprotected against polio and measles.

Globally, we have seen a remarkable change in the acceptance of child survival. Three years ago fewer than 20% of the children in the third world

had received a third poliomyelitis or diphtheria/pertussis/tetanus immunization. Suddenly, in three years' time the figure has climbed from less than 20% to more than 50%. When one looks at the acceptance of chemical exposure in the work place and how that has changed in 15 or 20 years, the changes have been institutionalized and we shall not return to where we were. That is what we must keep striving for in injury control.

The mandatory seat belt laws are revising another social norm. Now air bags are being offered not just in one or two models but in many models. Soon it will be standard in all models to have air bags.

Mothers Against Drunk Drivers changed our approach to grass roots demands in the area of injury and violence. So the changes involve the entire spectrum of violence and that is the major point, that we have to see violence as a spectrum.

Fence requirements for swimming pools, handrails on stairs and halls, thermostat limits for hot water, are all reminders that we are beginning to take control of our injury destiny. Indeed, for all of our discouragement and for all of our difficulties, we look at the 1990 objectives put out by the Public Health Service and we recognize how this has forced the public health world to focus on at least the problem, if not the interventions.

Look at the 1990 objectives. When they were set in 1978, there were 23.6 fatalities per 100,000 people on the highway and a goal was set at 18. We are down to a little more than 19. It appears that the goal can be achieved. For children under 15 the rate has fallen from 9 in 1978 to 6.6 in 1984, and it appears again that the goal of 5.5 can be achieved.

This is true throughout the area of violence. The home injury fatality goal for children under 15 was already met long before 1990. So progress continues. But not primarily because of the medical and public health community. If we look at schools of public health and schools of medicine, how many are providing leadership in injury control? Very few. Not many schools of public health have taken this on as a priority.

I have agreed to serve on the committee at the National Academy of Sciences because of my frustration about public health involvement in injury control. In 1977 we had a group look at morbidity and mortality in this country and advised the Centers for Disease Control what are the most important things that should be done in the area of public health. They highlighted the area of violence. We looked around to see how much was being done in public health and it was inadequate. Each year we submitted a budget in the area of injury control. Each year it was rejected because various people felt this was not a public health issue. It was a law enforcement issue,

a Department of Transportation issue, it was an issue that belonged to many other areas but not public health.

Following the report *Injury in America*, it was not the public health community that responded. It was actually Michael Finkelstein and the National Highway Traffic Safety Administration who worked with Congressman Lehman who then arranged for money to be placed in the Department of Transportation budget to start an injury center at the Centers for Disease Control. There is now a national program and, again, not because the Public Health Service provided a budget. We now have injury prevention research centers and are beginning to see the result of different disciplines coming together to concentrate on injury control, including demonstration projects.

More evidence that injury is becoming part of public health interests is found if one looks at the *Morbidity and Mortality Weekly Report*. Five years ago it would have been rare to have any article that dealt with injury control. In the past two years 45 different articles have related to injury control, thereby injecting the subject quite forcefully into the public health community.

We also have real uncertainty as to the future. The public health injury revolution which is occurring in foci around the country has not coalesced at the level of Health and Human Services. We are waiting now for the Senate and House to look at various proposals and determine the future of a national injury control program.

Over the last several years the American Public Health Association has been very important in having this budget actually succeed. But we need as many people as possible to let Congress know of their interest.

There are, of course, setbacks. Despite all of the advances mentioned, it will not be a smooth-line improvement. The repeal of helmet laws, the continuation of boxing as a reputed sport, and the raising of speed limit laws keep us from getting comfortable.

We must monitor carefully the result of that last change. Alabama now reports a 29% increase in accidents, a 37% increase in injuries, and an 18% increase in fatalities during August and September of this year, the two months after the increased speed limit.

New Mexico was, of course, the first state to increase the speed limit on April 2nd. One week later, 37% of drivers were already breaking the new speed limit; eight weeks later, 49% were breaking the new speed limit. During the first six months of the new law, fatalities on New Mexico's rural interstates had doubled.

On May 28, 1987 Susan Baker and others from Johns Hopkins had an

article in the *New England Journal of Medicine* concerning what is happening by counties. I had an opportunity to write an editorial, and the last paragraph of my editorial says:

When one considers the care with which risk assessments are made to determine the probability of one extra death from cancer in a million people, when one considers the experience of a single hospital death that was thought to be avoidable, or calculates the effort we expend as a people to find a transplantable organ for a dying child, the failure in a Congressional decision that will end lives prematurely becomes clear. It is not only a failure of Congress to obtain and use the appropriate facts but also a failure of the health professions to convey their knowledge of policy makers. The total system, science and policy, has once again failed to provide a protection level that could pass any reasonable peer review.

What can be done? We have to understand the unity of violence and injury regardless of the exact pathway. And part of our problem in controlling injuries has been the fragmentation of our efforts. Some are interested in highway injuries, some in family violence, some in falls, some in burns, some in homicide and suicide. We are fragmented by discipline between medicine, law, and engineering. United, the efforts of all of us could benefit all, and unfortunately the public health community has not taken that leadership. But we need to take a broad view of violence. We need to combine our efforts.

The Surgeon General held a workshop on violence and public health which was very important. We need to follow this up now with many workshops on each of the components, not only to seek new answers but to keep the Public Health Service interest in violence alive.

Second, certain risk factors such as alcohol reappear repeatedly as one looks at different type of injuries. How often do we have to demonstrate that alcohol is a potent substrate to injuries? We have the California study of 440 male fatalities showing that 83% had blood levels of one drug or more, and 43% had blood levels of two drugs or more.

In the same *New England Journal of Medicine* editorial, I quote from a Vietnam veterans study that reviewed the deaths of more than 440 veterans. The death certificates showed that 5.9% had blood alcohol levels. But when a careful study was done, it was shown that 31% of those deaths, either directly or indirectly, were due to alcohol. I made the point in the editorial that alcohol is the AIDS virus of injury control because it lowers the defenses and immunity to injury, leaving people vulnerable to what would otherwise be a nonthreatening situation.

Third, the Food and Drug Administration requires every new product to demonstrate that it is both safe and effective. Effectiveness alone is not

sufficient. Why not an engineering code for new systems development?

Fourth, one must also see the continuity from pre-injury factors to rehabilitation and plan accordingly. The National Academy of Sciences report emphasizes engineering, education, surveillance, and so forth. But it also goes on to point out that much of our knowledge is simply not used. It is not a matter of necessarily needing new knowledge, it is more that we are not using the knowledge we already have.

Finally, one must see the continuity between national and international injury violence. Injuries have always been a major problem in developing countries. That is now increasing because of increasing alcohol use, highways becoming more congested, technology and machinery more in use. We have to look at global solutions, not parochial solutions.

Albert Schweitzer once said, "Truth has no special time of its own. Its hour is now, always." The hour for injury control is now, and we must lose no opportunity to change the social norms, to make injury control a top priority in medicine, engineering, and law. We have an opportunity with new presidential candidates to get this message across to future leaders.

In summary, while injury control is 50 to 75 years behind infectious disease control models in many ways, the outcomes are bound to be the same. We are still in the descriptive epidemiologic phase for most injuries. That is, we understand the variations between regions, between age groups, between racial groups, and we understand what is possible in terms of preventive interventions. But at the same time we have moved beyond this to control programs in many areas. So, the value of deliberate interventions can be added to our knowledge base.

In my last 20 years in public health I have seen three models for dramatic social change. One is when young people get invested in a cause. We think, of course, of the 1960s and the campus unrest, but I was mentioning this morning that if we look at why the AMA has become so active in antitobacco movements, it is because the students and resident sections of AMA over a period of years continuously introduced resolutions that had to be discussed and debated. There was activity by young persons going on, something we encourage in injury control.

But a second model has been the model of coalitions. The major reason that immunization rates have gone up in the third world so dramatically in the last three years has not been because of new or better vaccines or better ways of giving vaccines. It is because a coalition formed between the World Health Organization and UNICEF, the World Bank, and UNDP. The various groups

that were already interested in working decided to get together to see if they could increase their efficiency. No one dreamed three years ago that that would be so productive that coverage rates would go from 20% to 50% in only three years.

The third model has been the single person who changes society. The change in immunization in this country really came about because President and Mrs. Carter asked Secretary Califano to improve immunization levels.

We have to pursue all of these simultaneously; we cannot take one route or the other. We simply must have better internal organization of those interested in injury control. We have to prime the pump so that when we get the interest of the Secretary of Health and Human Services this will become a public health issue. And we have to educate young people in injury control.

In closing, I have frequently quoted Norman Cousins and I shall do it again because he makes such a good point. In 1976 he wrote an article and he asked the question, "What is the single most important lesson the United States has taught the world in 200 years?"

His answer is that the most important lesson that the United States has taught the world is that it is possible to plan a rational future and that the Constitution of the United States turns out to be an incarnation of that idea. It is possible to plan a rational future in a cause-and-effect world. We cannot do that in a fatalistic world. We can do it in injury control because injuries are not accidents or fatalistic events, but only if we effectively combine our efforts.